Iowa Department of Public Health
Promoting and Protecting the Health of Iowans

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To: Healthcare Providers and Laboratorians
From: Iowa Department of Public Health, Center for Acute Disease Epidemiology
Re: Designation of Carbapenem-resistant Enterobacteriaceae (CRE) infection or Colonization in Iowa Residents as temporarily Reportable
Date: December 8, 2016

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**Background:**
Carbapenem-resistant Enterobacteriaceae (CRE) are an emerging and epidemiologically important threat. Infections with CRE are difficult to treat, are associated with high mortality rates. Carbapenem antibiotics are often used as the last line of treatment for infections caused by highly resistant bacteria, including those in the Enterobacteriaceae family. Increased antimicrobial resistance to the carbapenem family of antibiotics limits treatment options. CRE contain mobile resistance elements that facilitate transmission of resistance to other Enterobacteriaceae. Early detection and aggressive implementation of infection prevention and control strategies are necessary to prevent further spread of CRE. These strategies require an understanding of the prevalence of CRE in Iowa

**Surveillance:**
CRE is defined as Enterobacteriaceae, including the following species: 1)*Klebsiella spp*., 2)*Enterobacter spp.*, *3)E.coli*, or 4)*Citrobacter spp.*isolated, that is resistant to any one of the following carbapenem antibiotics: A)imipenem, 2)meropenem, 3)doripenem, or 4)ertapenem, based on current Clinical and Laboratory Standards Institutes Standards (M100) or demonstrates production of a carbapenemase.

All laboratories are required to forward CRE isolates from any body site (e.g., urine, blood, sputum, wound, etc.) and the results of antibiotic susceptibility testing and carbapenemase testing performed on the isolate to the State Hygienic Laboratory.

Current CLSI minimum inhibitory concentration (MIC) interpretive criteria for CRE:

| Antibiotic | MIC (µg/ml) |
|---|---|
| Imipenem | ≥ 4 |
| Meropenem | ≥ 4 |
| Doripenem | ≥ 4 |
| Ertapenem | ≥ 2 |

**Specimen Submission:**
The submission must include, at a minimum, the following information:
1. Results of antibiotic susceptibility testing, including automated testing instrument printouts (e.g., Vitek2, Phoenix, etc.), and/or results of other manual susceptibility testing performed (e.g. manual MicroScan, E-test, disk diffusion, etc.), including MIC value and final interpretation result.
2. Results of additional testing performed on the specimen and/or isolate(s) for carbapenemase production (e.g., E-test, modified Hodge test, Carba NP, PCR, nucleic acid testing [NAAT], etc.).

**What to Report:**
Providers will report using a designated case report form and must be submitted either by direct electronic transmission, phone, or fax. The report must include, at a minimum, the following information:

*a.* The patient's name.
*b.* The patient's address.
*c.* The patient's date of birth.
*d.* The sex of the patient.
*e.* The race and ethnicity of the patient.
*f.* The patient's marital status.
*g.* The patient's telephone number.
*h.* The name and address of the laboratory.
*i.* The date the test was found to be positive and the collection date.
*j.* The name and address of the health care provider who performed the test
*k.* If the patient is female, whether the patient is pregnant.
*l.* The name of the reportable disease.

**How to report:**
The preferred method of reporting is through the Iowa Disease Surveillance System. Reports can also be submitted via telephone (800-362-2736), facsimile (515-281-5698), or mail Iowa Department of Public Health, Lucas State Office building, 321 East 12th St, Des Moines, IA 50319-0075.

Pursuant to 641-1.7 (135,139A) Investigation of reportable disease, upon receipt of the report, IDPH epidemiologists or the local public health department may request additional information needed for the investigation.

**The Director of the Iowa Department of Public Health has designated suspected and confirmed cases of Carbapenem-Resistant-Enterobacteriaceae infection or colonization as reportable in Iowa until December 31, 2017.**